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DEPARTMENT OF THE TREASURY

Notice Seeking Public Comment on the Evolution of the Treasury Market Structure

Docket No. TREAS-DO-2015-0013

AGENCY: Office of the Under Secretary for Domestic Finance, Department of the Treasury **ACTION:** Notice and Request for Information.

SUMMARY: The Department of the Treasury ("Treasury") is seeking public comment on structural changes in the U.S. Treasury market and their implications for market functioning; trading and risk management practices across the U.S. Treasury market; considerations with respect to more comprehensive official sector access to Treasury market data; and benefits and risks of increased public disclosure of Treasury market activity.

DATES: Comments must be received no later than [INSERT DATE 60 DAYS FROM THE DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Comments may be submitted through the Federal eRulemaking Portal (www.regulations.gov). Please follow the instructions for submitting comments through the website. You may download this proposed rule from www.regulations.gov or www.treasurydirect.gov. Please submit your comments, along with your full name and mailing address. We will not accept comments by fax or email. All comments will be posted to www.regulations.gov and on the TreasuryDirect website at www.treasurydirect.gov.

Additional Instructions: In general, comments received, including attachments and other supporting materials, are part of the public record and are available to the public. Do not include any information in your comment or supporting materials that you consider confidential or inappropriate for public disclosure.

FOR FURTHER INFORMATION CONTACT: For general inquiries, submission process questions or any additional information, please email TreasuryMarket RFI@treasury.gov or call (202) 622-2396. If you use a telecommunications device for the deaf (TDD) or a text telephone (TTY), call the Federal Relay Service (FRS), toll free, at 1-800-877-8339. All responses to this Notice and Request for Information should be submitted via http://regulations.gov to ensure consideration.

SUPPLEMENTARY INFORMATION: The U.S. Treasury market is the deepest and most liquid market in the world. It plays a critical and unique role in the global economy, serving as the primary means of financing the U.S. federal government, a significant investment instrument and hedging vehicle for global investors, a risk-free benchmark for other financial instruments, and an important market for the implementation of monetary policy by the Federal Reserve System.

The structure of the Treasury market has evolved significantly over the past two decades. In particular, technology advancements, and the associated growth in high-speed electronic trading has contributed to the growing presence of principal trading firms (PTFs),² with these firms now accounting for the majority of trading and standing quotes in the order book in both futures and interdealer cash markets. By contrast, bank-dealers³ still account for a majority of secondary cash market trading overall (when including dealer-to-customer trading), but they

¹ For purposes of this Request for Information (RFI), the U.S. Treasury market comprises the secondary market trading of U.S. Treasury securities, futures and options on U.S. Treasury securities and futures, and securities financing transactions in which Treasury securities are used as collateral.

² For purposes of this RFI, a PTF is defined as an investor with the following typical characteristics: principal investor, deploys proprietary automated trading strategies, low latency typically key element of trading strategies, may be registered as broker or dealer but does not have clients as in a typical broker or dealer business model.

³ For purposes of this RFI, bank-dealer refers to a SEC-registered broker-dealer that is owned by a bank. A non-bank dealer is an independent SEC-registered broker-dealer that is not owned by a bank. Primary dealers, as designated by the Federal Reserve Bank of New York, are a subset of the bank-dealer category in the JSR.

comprise well under half of the trading and quoting activity in the inter-dealer cash markets.

These changes in intermediation and the provision of liquidity have coincided with significant growth in the U.S. fixed-income market, an evolving regulatory and macroeconomic landscape, and potential changes in the demand for liquidity by many investors.

Trading in the Treasury cash market occurs across a diverse set of venues and modes of execution. Historically, the Treasury cash market has been bifurcated between the interdealer market, in which dealers trade with one another, and the dealer-to-client market, in which dealers trade with their customers (e.g. asset managers, pension funds, insurance companies, corporations). In the Treasury cash market, customers, also referred to as end users, have not historically traded directly with other end users.⁴

Trading in the inter-dealer cash market has evolved significantly. Originally, this market had been open almost exclusively to dealers, who transacted with each other by telephone. In the early 2000s this changed, with inter-dealer brokers launching electronic trading platforms and later opening access to those platforms to non-dealers. Trading on these platforms has become increasingly automated, with transactions conducted using algorithmic and other trading strategies involving little or no human intervention. Today, trading on the inter-dealer platforms bears some resemblance to other highly liquid markets, including equities and foreign exchange markets, where PTFs and dealers transact in automated fashion, sometimes in large volumes and at high speed.

In contrast, a significant portion of trading in the dealer-to-customer market occurs on platforms that facilitate the matching of buy and sell orders primarily through request for quote (RFQ) systems, not central limit order books. These platforms are increasingly electronic, but

⁴ For purposes of this RFI, customer refers to an institutional customer, to differentiate from a retail customer.

are generally not conducive to automated or high-frequency trading strategies. Dealers also internalize a portion of their customer flow.⁵ However, it is unclear the extent to which this occurs given currently available data.

Treasury futures are required by law to be traded on a registered exchange, and are traded primarily on the Chicago Board of Trade, part of the CME Group (CME). Futures transactions traded on the CME are centrally cleared at CME's clearinghouse. In the 1990s, futures trading began to transition from manual to electronic processes for the transmission of orders and information, and the execution of trades. Electronic trading eventually became the dominant mode of execution in the futures market. Now, more than 95 percent of all on-exchange futures trading occur on electronic trade-matching platforms, and market participants are increasingly employing automated systems for the generation, transmission, management, and execution of orders.⁶

Non-bank proprietary trading firms have long played a significant role in the futures market. As the market has evolved to greater levels of electronic trading, they have increasingly employed automated trading strategies, and increasingly moved into the Treasury cash market.

Today, PTFs represent a majority of trading in Treasury futures and inter-dealer cash markets.

On July 13, 2015, the staffs of the Treasury, the Board of Governors of the Federal Reserve System ("Board"), the Federal Reserve Bank of New York ("FRBNY"), the U.S. Securities and Exchange Commission ("SEC"), and the U.S. Commodity Futures Trading Commission ("CFTC") (collectively, the "Joint Staffs"), published the Joint Staff Report: The

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⁵ For the purposes of this RFI, internalization refers to a broker filling a customer order either from the firm's own inventory or by matching the order with other customer order flow, instead of routing the order to an inter-dealer market for execution.

⁶ See CFTC Proposed Rule: Regulation Automated Trading, December 17, 2015: http://www.cftc.gov/idc/groups/public/@lrfederalregister/documents/file/2015-30533a.pdf

U.S. Treasury Market on October 15, 2014 ("JSR").⁷ The JSR analyzed the extraordinary volatility in the Treasury market on the morning of October 15, 2014, and identified four next steps for further work: 1) further study of the evolution of the U.S. Treasury market and the implications for market structure and liquidity, 2) continued monitoring of trading and risk management practices across the U.S. Treasury market and a review of the current regulatory requirements applicable to the government securities market and its participants, 3) an assessment of the data available to the public and to the official sector on U.S. Treasury cash securities markets, and 4) continued efforts to strengthen monitoring and surveillance and promote inter-agency coordination related to the trading across the U.S. Treasury market.

Treasury is seeking public comment on several specific questions that will inform the ongoing work related to the next steps identified in the JSR. This RFI is intended, in part, to seek information and viewpoints from a diverse group of stakeholders, including the general public, buy and sell-side market participants, academics, and industry groups regarding these and other structural changes in the Treasury market, and their implications for the depth, liquidity, and functioning of the market. This RFI is also intended to develop a holistic view of trading and risk management practices across U.S. Treasury futures and cash markets—including the various trading venues and modes of execution present in the cash market—and it seeks input on potential improvements in Treasury market policies, practices, and conduct.

Given the market evolution, access to timely and comprehensive data across related markets is increasingly important to fully assess new developments, and analyze market events. Accordingly, we are interested in the most efficient and effective ways for the official sector to

⁷ Joint Staff Report: The U.S. Treasury Market on October 15, 2014: http://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf. The findings in the JSR were based in part on transaction-level, non-public data that staff obtained from the primary locations for price discovery in the Treasury market, the Chicago Mercantile Exchange for futures and BrokerTec and eSpeed for cash securities.

obtain additional market data and in ways to more effectively monitor diverse but related markets. Finally, we are interested in the potential benefits and costs of additional transparency with respect to Treasury market trading activity and trading venue policies and practices.

Treasury developed this RFI in consultation with the Joint Staffs. The responses to this RFI will further enhance our understanding of the changes underway in the Treasury market and will help to inform the ongoing work related to the next steps identified in the JSR as well as any policy responses. This is intended to be a comprehensive list of questions. Depending on your role and/or interest in the Treasury market, you may choose to answer only certain questions.

I. Further study of the evolution of the U.S. Treasury market and the implications for market structure and liquidity

Treasury is interested in the various factors driving the evolution of the Treasury market discussed above, and their implications for market functioning. These factors include changes in technology, the growing prevalence of automated trading, changes in market making, financial institutions' risk tolerance and business models, shifts in buy and sell-side participation, post-crisis regulatory reforms, as well as any other factors respondents to this RFI may identify. We are also interested in the changing nature of liquidity and liquidity provision in the U.S. Treasury market.

By some metrics, the liquidity and efficiency of trading in the U.S. Treasury market are as robust as they have ever been. For example, bid-ask spreads have remained steady at very low historical levels. But the changes in market structure also raise questions about evolving risks, such as whether an improvement in average liquidity conditions may come at the cost of rare but severe bouts of volatility that coincide with significant strains in liquidity. The changing

nature of liquidity also suggests that measures used to estimate liquidity may need to be enhanced in order to broaden our understanding of the state of the market, both during normal and stressed market conditions.

Questions for public comment

Treasury requests comment on the questions below. These questions are intended to solicit views on the implications of changes to U.S. Treasury market structure, including changes to financing markets (i.e., the repurchase agreement market) using Treasury securities, for liquidity provision, and market functioning. We also welcome any input on the current market structure and how participants believe U.S. Treasury market structure will evolve in the coming years.

- 1.1 Have there been changes in the nature of liquidity provision, or demand for liquidity, in the U.S. Treasury market? If so, are these trends different in the futures, dealer-to-customer, or interdealer broker ("IDB") market, or in the "on-the-run" and "off-the-run" sectors, or across different types of Treasury securities (e.g. bills, nominal fixed rate coupon securities, nominal floating rate securities, and inflation-indexed securities)? Which factors have been responsible for any observed trends in liquidity provision and/or demand? In addressing those questions, please consider the dealer-to-customer market, trading on IDB platforms, and in the futures market, as applicable, and please provide or refer to data and/or analysis that support your conclusion. In addition, please consider the following questions, as applicable:
 - a. How do you define liquidity? How do you define liquidity provision?

- b. Which measures are most indicative of the degree of liquidity? How might these measures be refined or expanded, if you were not limited by the availability of data?
- c. How do different indicators provide information on different aspects of liquidity, and in what ways?
- d. Which measures best represent the resilience of liquidity, or the relationships between liquidity and volatility?
- e. To what extent are these measures of liquidity and the resilience of liquidity different from measures used in other markets that have witnessed similar market structure changes? What are the idiosyncratic factors unique to Treasury cash markets that may cause these measures to differ?
- f. What changes, if any, have you observed in these measures over recent years?
 Over recent months?
- g. What microstructure features of the U.S. Treasury futures and cash markets, including both IDB venues and dealer-to-client markets, have affected the functioning, liquidity, efficiency and participation in these markets? What features have affected the functioning of the Treasury market as a whole?
- 1.2 What changes, if any, have you made or observed in investment, hedging, and trading practices in response to shifts in Treasury market structure?
- 1.3 How does the way in which you transact in or provide liquidity to the U.S. Treasury market change during periods of stress?

- 1.4 Looking forward, do you anticipate significant changes in the structure of the U.S.
 Treasury market absent further regulatory changes? What would be the key benefits and/or risks of these changes in market structure? What key factors are likely to drive these changes? What changes are you planning to your firm's investment and trading policies, strategies, and practices?
- 1.5 What changes to the U.S. Treasury market structure, whether through public or private sector initiatives, might be advisable given the recent and expected future evolution?
 What role should the public sector play in driving or facilitating these changes?
- 1.6 What are the benefits and risks from the increased speed with which secondary market transactions take place? Do these benefits and risks differ across individual products (e.g. on-the-run versus off-the run securities)? How have market participants and trading venues responded to, or facilitated, improvements in speed, and how, if at all, should policy makers respond?
- 1.7 To what extent have changes in Treasury financing markets affected liquidity in cash

 Treasury markets, and what is the best evidence of those effects? Looking forward, do

 you anticipate major changes in the Treasury financing markets and how would this

 impact the functioning of the cash Treasury markets? How have firms modified their

 trading strategies in response to, or in anticipation of, these changes? What changes in

 Treasury financing markets could improve market efficiency? What are the potential

 benefits and risks to the Treasury market of increased access to central clearing of

 Treasury repurchase agreement ("repo") transactions?

1.8 What share of trading (in the case of dealers, your own trading) is internalized? To what extent does it vary depending on security type (e.g., on-the-run, off-the-run)? How has this changed over time and how do you expect it to develop? What implications for the Treasury market, if any, do you see as a result of these developments?

II. Continued monitoring of trading and risk management practices across the U.S. Treasury market and a review of the current regulatory requirements applicable to the government securities market and its participants

The introduction and rapid growth of electronic and automated trading protocols by many participants in the U.S. Treasury market over the past two decades have brought benefits as well as challenges to trading practices and risk and internal control systems. Risk controls at firms and trading venues must be able to monitor order and trade activity at the increased speeds made possible by this automation. In recent years, many trading platforms and firms have updated their risk management practices to better align them with a faster and more complex trading environment. The public and private sectors have collaborated to establish best practices for transacting in the modern Treasury market. In particular, the Treasury Market Practices Group ("TMPG") recently updated its Best Practices for Treasury, Agency Debt, and Agency Mortgage Backed Securities Market by incorporating recommendations related to automated trading in TMPG covered markets.⁸ The updated TMPG best practices recommended that all Treasury market participants incorporate best practices in their operations in order to promote trading integrity and to support an efficient marketplace.

⁸ Best Practices for Treasury, Agency Debt, and Agency Mortgage-Backed Securities Markets: http://wcapps.ny.frb.org/tmpg/TPMG June%202015 Best%20Practices.pdf.

The trend toward increasingly automated trading, including algorithmic trading strategies, is also being addressed by various regulatory efforts underway, particularly by the SEC and the CFTC. Among the next steps identified in the JSR is a review of the regulatory requirements applicable to the government securities market and its participants. The Government Securities Act (GSA) of 1986, as amended, provides for the registration of government securities brokers and dealers engaging in transactions in government securities and requires Treasury to adopt rules with respect to financial responsibility and related practices of government securities brokers and dealers. The Treasury, SEC, and the federal bank regulators, regulate government securities brokers and dealers in the Treasury market. The CFTC regulates the futures markets, including the Treasury futures markets, and many of its participants.

In order to prevent fraudulent and manipulative acts and practices and to promote just and equitable principles of trade, the GSA also authorizes the appropriate regulatory agencies (the SEC and federal bank regulators) to issue regulations, in consultation with Treasury, with respect to transactions in government securities for the entities they regulate. The enforcement authority for these rules sits with the SEC, the Financial Industry Regulatory Authority ("FINRA") or the appropriate federal bank regulator. Based on the current statutory scheme, there are several differences in the regulatory requirements applicable to the government securities market as compared to other U.S. securities, commodities and derivatives markets that may be worthy of examination.

⁹ See Public Law 99-571, October 28, 1986 and Public Law 103-202, December 17, 1993.

¹⁰ Ibid.

¹¹ There are differences in the current regulatory requirements applicable to the government securities market as compared to other U.S. securities, commodities and derivatives markets. For example, SEC rules applicable to alternative trading systems do not apply to alternative trading systems through which only government securities are traded (although such venues may voluntarily adopt such standards). Real time public reporting rules applicable to transactions in other securities and derivatives do not apply to transactions in Treasury securities. Large non-broker

Questions for public comment

We request comment on the questions below. We are interested in what further steps the public and private sectors can take to address any outstanding risks, including operational risks to market functioning and risks to market integrity. We are also interested in the extent to which rules and practices applicable in other markets may be effective, in whole or in part, in improving the resilience of U.S. Treasury markets.

- 2.1 Are the risk management controls currently in place at U.S. Treasury cash and futures trading venues, as well as firms transacting in those venues, properly calibrated to support the health of the U.S. Treasury market? Why or why not? Please list the types of controls that are employed, as well as planned changes or improvements. In addressing these questions, please consider the dealer-to-customer market, trading on IDB platforms, and the futures market, as applicable. In addition, please consider the following questions:
 - a. What policies and risk management practices at U.S. Treasury cash and futures trading venues, as well as at firms transacting in those venues, could be improved or developed to mitigate potential risks associated with increased automation, speed, and order complexity? Please consider the risks posed by trading, risk transfer, and clearing and settlement.
 - b. To what extent should venue-level risk management practices be uniform across

 Treasury cash and futures trading venues? For example, should there be trading
 halts in the Treasury cash market and should they be coordinated between

and non-dealer participants in the government securities market are not required to register (unlike large swap market participants).

Treasury cash and futures markets, and if so, how? Should Treasury cash, futures, options, and/or swaps venues coordinate intraday risk monitoring, and if so, at what frequency? If there were trading halts, how should they be implemented for bilateral trading activity in the Treasury cash market? What would be the primary challenges in implementing such trading halts, particularly given that trading in the U.S. Treasury cash market is over-the-counter, global in nature, and conducted on a 24-hour basis?¹²

- c. To what extent should U.S. Treasury cash market platforms be responsible for monitoring, identifying, and/or reporting suspicious trading activity?
- 2.2 What internal risk controls are commonly employed by firms using automated, including algorithmic, trading strategies in the Treasury cash market? Are these different or similar to those used in the Treasury futures markets, and what are the reasons for any differences? How are such controls designed and triggered? How frequently are they triggered? What internal process controls commonly govern the implementation and modifications of trading algorithms?
- 2.3 What types of algorithmic trading strategies are commonly used by participants in the U.S. Treasury market? What features do those strategies have in common, and what features differ across strategies? What are the potential benefits and risks to an effective U.S. Treasury market functioning resulting from certain algorithmic trading strategies, certain order types, and/or particular trading venue policies or practices.

¹² Currently, under the GSA Treasury does not have the statutory authority to suspend trading or establish limit up/limit down thresholds for Treasury securities.

- 2.4 How are best practices used in evaluating, and updating, risk management systems at a given firm? How does your firm make use of TMPG's best practices (referenced above) for operations in the Treasury cash market? How can best practice recommendations be utilized in order to reinforce market integrity? What are the benefits and limitations of best practice recommendations?
- 2.5 What are the benefits and risks associated with the current structure for clearing and settling Treasury securities transactions in the dealer-to-customer market and on IDB platforms, as applicable. For example:
 - a. Are intraday margining practices in the Treasury cash market for both cleared and non-cleared transactions currently sufficient to protect against counterparty risk, especially in light of the speed at which positions can be accumulated? What options are available to improve margining practices? Should the maximum potential intraday exposure of firms be calibrated relative to their level of capital? If so, how should it be calibrated? Are alternative measures of potential exposure more meaningful for automated trading strategies, and if so, which type of measures?
 - b. Currently, there are no statutory requirements that require participants to centrally clear cash Treasury transactions. Should such a requirement apply to any participants, particularly those with large trading activity or large positions?
 Would the secondary market for cash Treasury securities benefit from broader participation in centralized clearing? Why or why not?

- 2.6 Many of the standards applicable to U.S. securities, commodities, and derivatives markets are not applicable to the U.S. Treasury cash market. Which differences, if any, should be addressed and how should standards be aligned? How will these affect the cost of accessing or participating in these markets, as well as of transacting in these markets? Would there be any implications to U.S. federal government borrowing costs? In addressing these questions, please consider the dealer-to-customer market, trading on IDB platforms, and the futures market, as applicable. In addition, please consider the following:
 - a. What implications would a registration requirement for firms conducting certain types of automated trading, or certain volume of trading, in the U.S. Treasury market have on market structure and efficiency, investor protection, and oversight?
 - b. Should firms that conduct certain types of automated trading, or certain volume of trading, in the U.S. Treasury market be subject to capital requirements, examinations and supervision, conduct rules, and/or other standards? What would be the implications of each?
- 2.7 Should self-trading be expressly prohibited in the cash Treasuries market?¹³ Does self-trading provide any benefits to the markets? Are there risk management tools, either at trading firms or at trading platforms, which can effectively reduce levels of self-trading and improve trading efficiencies?

¹³ For purposes of this RFI, self-trading is defined as a transaction in which the same legal entity takes both sides of the trade so that no change in beneficial ownership results.

III. An assessment of the data available to the official sector on U.S. Treasury cash securities markets

The analysis presented in the JSR was based on cash and futures transactions and order book information, with the cash data provided by the IDB platforms and the futures data obtained through the CFTC as part of its oversight of the CME. Transaction data for the U.S. Treasury futures market is provided daily to the CFTC, and order book data is available to the CFTC upon request. This transaction data includes time, volume, price, and counterparty information. The official sector does not currently receive any regular reporting of Treasury cash market transactions. The JSR did not include any analysis of dealer-to-customer data, although certain dealer-to-customer data was subsequently obtained for the purpose of additional analysis of October 15, 2014 and the control days analyzed in the JSR.

The need for more comprehensive official sector access to data, particularly with respect to U.S. Treasury cash market activity, is clear. Given the benefits of enhanced transparency among all official sector stakeholders into trading activity across both the cash and futures markets, we are interested in views regarding the most efficient and effective way to collect, aggregate, and appropriately monitor U.S. Treasury cash and futures markets data. We are also interested in the additional infrastructure that would be necessary for market participants to begin reporting comprehensive U.S. Treasury market transaction data to the official sector, especially given the diversity of trading venues in the Treasury cash markets. Finally, we are interested in views on how to utilize transmission protocols, data standards, and identifiers to facilitate data integration, and to support continued coordination among the Joint Staffs.

Activity related to U.S. Treasury markets trading often extends beyond individual regulator boundaries; it encompasses not only the primary and secondary cash securities markets, but repurchase agreement markets, futures contracts which reference U.S. Treasuries, and U.S. Treasury exchange-traded funds traded as equities. This diversity in trading venues and participants often leaves any individual regulator with only a partial view of U.S. Treasury market risk transfer and price discovery. Data from across the U.S. Treasury cash and futures markets is necessary to conduct comprehensive analysis or surveillance of these markets, which are tightly integrated and across which market participants conduct trading activity. As firms are able to access multiple markets over very short time frames, these markets become ever more interconnected, resulting in significantly faster risk and information transmission. These trends call for continued cooperation among the official sector to ensure that the monitoring of market activity and liquidity is as effective and coordinated as possible.

The Inter-Agency Working Group for Treasury Market Surveillance ("IAWG") was formed to improve monitoring and surveillance, and strengthen interagency coordination with respect to the U.S. Treasury markets following the Salomon Brothers auction bidding scandal in 1992, and today consists of the Joint Staffs. Since its inception, it has been useful in providing a regular forum for the participating entities to collaborate on issues related to U.S. Treasury market structure, functioning, and participation, such as the events of October 15, 2014. To

¹⁴ The IAWG was formed in 1992 by the Treasury, the SEC, and the Board, to strengthen monitoring, surveillance and interagency coordination in respect to the Treasury market. Its initial efforts were focused on developing a framework for enhanced market surveillance for Treasury Securities. See U.S. Department of the Treasury, Securities and Exchange Commission, and Board of Governors of the Federal Reserve System, *Joint Report on the Government Securities Market* (U.S. Government Printing Office, January 22, 1992), at xii-xiv. http://www.treasury.gov/resource-center/fin-mkts/Documents/gsr92rpt.pdf. See also The U.S. Department of the Treasury, Securities and Exchange Commission, and Board of Governors of the Federal Reserve System, *Joint Study on the Government Securities Market* (U.S. Government Printing Office, March 1998), http://www.treasurydirect.gov/instit/statreg/gsareg/gsareg_gsr98rpt.pdf. See also Official Surveillance and Oversight of the Government Securities Market, William J. McDonough, FRBNY Quarterly Review, Spring 1992-93.

facilitate the continued monitoring of U.S. Treasury market activity, the Joint Staffs are working to complete a standing information sharing agreement.

Questions for public comment

We request comment on the questions below. The questions in this section of the RFI seek information about which U.S. Treasury market data the official sector should have regular and ongoing access to. We are also interested in views regarding the potential for additional coordination across futures and cash markets, as well as interest rate swaps and options. These questions relate to the provision of U.S. Treasury market data to the official sector. Accordingly, while there may be considerations regarding data dissemination to the public that may be relevant to the answers to the questions posed in this section, those considerations should not factor into the answer to these questions (unless otherwise noted), but should be addressed, to the extent applicable, in Section IV.

- 3.1 To what extent can trading practices in U.S. Treasury cash and futures markets be effectively monitored using only transaction and/or order data from one, not both, of those markets? Is it necessary for regulators to have visibility across all U.S. Treasury cash and derivative markets in order to more effectively monitor and oversee trading behavior in any one market? What aspects of U.S. Treasury market monitoring require data collection across cash and derivatives markets?
- 3.2 What frequency and type of additional data reporting to the official sector is necessary for it to effectively monitor functioning of the U.S. Treasury markets, including cash, futures, and financing markets? What level of data granularity is necessary for sufficient monitoring to be performed (e.g., transaction data, inventories or positions, order book data, and other additional data) across venues?

- a. Should all transactions in securities issued by Treasury be subject to reporting or should reporting be limited to secondary market transactions, on-the-run benchmark issues, or some other subset of securities?
- b. Should repurchase agreement transactions be reportable?
- 3.3 What criteria should be used to determine who should report to the official sector? Should both counterparties (buyer and seller) be required to report a trade or is one-sided reporting preferable? Should reporting requirements depend on the platform or execution method? Should only a subset of participants, such as brokers, dealers, futures commission merchants (FCMs) and commercial bank dealers be required to report transactions? Should other parties to a transaction, such as banks and PTFs, be required to report? Should trades executed on automated trading venues be reported by those venues and not the individual brokers, dealers, FCMs, bank dealers, etc. transacting on such venues?
- 3.4 Should transaction reporting include identifiers for categories of end investors? What are the costs and benefits of this approach? What alternatives should be considered to permit monitoring of positions and market activity?
- 3.5 For those instruments subject to official sector reporting requirements:
 - a. Should all transactions be subject to the same reporting time requirement? Are the answers different for different types of transactions or instruments?
 - b. Should cross market transactions have special indicators to link the different legs of the transactions?

- c. Are there specific trades and/or trading strategies that should be considered for additional identification to ensure that regulatory organizations can accurately interpret the data (similar to Dollar Rolls or Stipulations on deliverable collateral in mortgage to-be-announced trading)?
- d. Are there other industry practices and/or special situation information that should be considered for reporting?
- e. Should trade allocations be reported? Are there any special pricing issues that should be considered (e.g. mark ups, commissions, ATS fees) or is dollar price adequate for determining the price of the trade?
- f. Should settlement date and/or other settlement terms be reportable?
- g. Are there any special considerations/conditions for determining the time that a trade is executed? Does this differ across trade types or venues?
- h. Should transactions executed on an ATS and/or in response to an electronic RFQ be identified as such? Should the specific ATS and/or RFQ platform be identified as part of the transaction report? Are there unique characteristics of such transactions that should be identified? Should the order type giving rise to a particular execution be captured? Are there any other unique methods of transacting in the Treasury market that should be identified?
- i. Should transaction counterparties be identified uniquely or categorized by counterparty type? If the latter, what counterparty types should be identified? Are there generally accepted definitions for these categories of counterparties?

- j. For transactions that are already subject to reporting requirements to the official sector, are there particular data standards or identifiers that should be used for the reporting of transactions in the Treasury cash market to aid harmonization? What transmission protocols, data standards and identifiers should be utilized to enhance authorities' ability to integrate data, share information and cooperate on analysis, for both existing and new data reporting?
- k. Should the identification of registered market participants be "normalized" across U.S. Treasury cash and futures transactions such that there is a consistent and unique moniker used to identify each individually registered entity?

3.6 For those securities subject to official sector reporting requirements:

- a. Should quotes and/or orders be reported? If so, should special consideration be made for certain types of quotes and/or orders (e.g., electronically submitted orders versus voice orders versus RFQ)? Are there any special considerations when defining an order and/or quote? How will these special considerations affect the ability of the official sector to analyze activity in the Treasury cash markets?
- b. Should transactions, quotes, and/or orders be reported on a real time basis? If not, what should be the reporting standard? How should orders that are executed over multiple days be handled? Are there other special considerations when defining the time of an order?
- c. Are there additional elements that are important for regulators to understand beyond the categories of quote/order originator, price, size and time of the order (e.g., inventory or position data)? Should the type of an order or any special order

- instructions be collected? Should all order changes be reported? Is the answer different for electronically submitted versus voice submitted orders?
- d. Should the submitter of a quote and/or order be identified uniquely or categorized by counterparty type? If the latter, what counterparty types should be identified? Are there generally accepted definitions for these categories of counterparties?
- 3.7 Is it appropriate to have transactions, orders, and quotes time stamped at a certain clock precision (e.g., microsecond) level? Are the answers to these questions different for different types of transactions (e.g., electronic or voice) or different products (e.g., Treasury bills, notes, bonds, on-the-runs, off-the-runs, cash, or futures)? Would the answer be different for trade reporting, quote reporting, or order reporting? Would the answer be different for different categories of market participants?
- 3.8 Do commercial bank dealers and broker-dealers have technology infrastructures and order/execution handling in place to report trades on a continuous basis?
- 3.9 As the official sector begins to collect additional data on the cash U.S. Treasury market, what operational or market factors should be assessed? Are there particular negative consequences from the implementation of data collection? If so, what are they and why do they arise?
 - a. The official sector may consider different methods for receiving transaction data from Treasury markets. For instance, it may rely on existing reporting regimes, or it may seek to build an alternative reporting system. If the latter, what alternative reporting system should be used? What are the costs and benefits with these different approaches? Would one approach impose fewer burdens on reporters than others? If so, why and by how much?

- b. Would one approach impose fewer burdens on smaller reporters than another? If so, why and by how much?
- c. Is the answer different for trades, orders, quotes, or execution methods?
- 3.10 What additional infrastructure would be necessary for market participants to begin reporting comprehensive U.S. Treasury market transaction data? Should reporting requirements be phased in? If yes, how and why? Does phasing affect the cost of implementation for market participants? What transmission protocols, data standards and identifiers should be utilized to minimize reporting burdens?
- 3.11 Will the requirement to report transactions in the Treasury markets affect competition in this market? Who would be affected and how? What data or empirical evidence support this position?

IV. An assessment of the data available to the public on U.S. Treasury cash securities markets

The extent of publicly available information for U.S. Treasury markets, including that related to market prices, trading volumes, market participant inventories, and trends in market risk and liquidity, is substantially more limited than for many other major asset classes. For example, there are no public reporting requirements for transaction or order book information with respect to transactions in Treasury securities. In addition to obtaining the appropriate data for the official sector, we are committed to continuing to appropriately enhance the information made public about the U.S. Treasury market.

Making appropriate data available to the public more broadly regarding trading activity in the U.S. Treasury market could support investor confidence and the liquidity of these markets. Greater price transparency could improve efficiency, reduce transaction costs, enhance fairness, improve risk management practices and encourage participation by new entrants, who may otherwise be reluctant to engage in a market where they have less information than their counterparties. Greater operational transparency also may be desirable with respect to the practices governing trading and access at the various trading venues. Visibility into order types, access rules, and rulebooks may encourage greater competition and a more level playing field for market participants.

However, the U.S. Treasury cash market is not uniform. More recently-issued on-the-run securities trade largely on electronic platforms that match orders using a central limit order book. Seasoned, or off-the-run, securities generally still rely on dealers to intermediate transactions.

Some types of transparency may inhibit the willingness to engage in large so-called "block"

trades by large investors and intermediaries. This reluctance may be particularly true in the less liquid parts of the U.S. Treasury market, where concerns about moving prices or revealing positions are stronger. In markets with more formal regulations pertaining to pre- and post-trade transparency, the rules provide flexibility for block-sized trades. For example, trades above a certain size could be executed away from platforms with pre-trade transparency, and such trades could be reported to the marketplace with some delay. Related rules also allow for masking of the size of large transactions to help mitigate the concern of higher market impact costs. The futures markets also require that net positions greater than specified thresholds (for all market participants and not just entities subject to registration requirements) be reported to the market regulator.

Questions for public comment

We request comment on the questions below. We are interested in the appropriate level and form of data about Treasury market activity that should be made available to the public. This includes use of transmission protocols, data standards and identifiers to facilitate the public's ability to link and integrate data.

- 4.1 Is the publicly available information for U.S. Treasury market trading activity sufficiently transparent to foster an efficient, healthy, and liquid market? What changes to public reporting would be most advisable, if any, including the use of data standards and identifiers?
- 4.2 What additional information should be made available to the public in order to better assess liquidity conditions in the U.S. Treasury market, and at what frequency? For instance, should there be readily available transaction cost data that accounts for price movements that occur from the initiation of a trade request on RFQ platforms?

- 4.3 If additional public transparency is necessary at the transaction level, what is the most appropriate level of transparency for publicly available data on trading in the secondary market? Should additional public transparency be phased in over time in any way? Should all quotes and/or orders in the inter-dealer market be made public, or just "top of book"? What characteristics should be reported (e.g., participant type, aggressor side, volume, price)? Should the release of any or all of the data be in real time or delayed? Should the available data differ depending on the age of the security, size of the transaction or other characteristics of a particular security or transaction?
- 4.4 Is there an existing public reporting model that would be appropriate, in whole or in part, for the U.S. Treasury market (e.g., swap data repositories for swaps, or FINRA's Trade Reporting and Compliance Engine (TRACE) for corporate bonds and agency mortgage-backed securities), or would the Treasury market benefit from a new model?
- 4.5 What additional information should be available to the public about the operation of trading platforms or trade execution algorithms on trading platforms (for inter-dealer as well as dealer-to-customer platforms)? For example:
 - a. Should information about order types, agreed upon fee arrangements, user agreements, and/or brokerage agreements be disclosed?
 - b. Should the degree to which subscribers to the platform may limit their interaction with or exposure to other subscribers be disclosed?
 - c. Should the degree and extent to which the sponsor of a platform trades on the platform be disclosed?

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[FR Doc. 2016-01246 Filed: 1/21/2016 8:45 am; Publication Date: 1/22/2016]